EDUCATION

Bachelor of Science in Computer Science:

- New Mexico State University
- Las Cruces, NM
- Graduated May 2019
- Cumulative GPA: 3.3
- Major GPA: 3.0

Selected Course Work:

- Linux and Unix Administration
  - Worked and studied as a pseudo-Linux Administrator.
  - Added, removed, and maintained users and groups under the Linux Distro OpenSUSE.
  - Used the Linux Command Line and Shell scrips, primarily Bash, to create automation for the Linux Operating System.
- Database Systems Management and Analysis
  - Administered the front-end and developed the back-end for the group's Database project.
  - Worked directly with the schema of the project which emphasized the use of MySQL for the back-end and PHP for the front-end.
  - Used Bootstrap to emphasize a better User Experience (UX).
  - Worked closely with ER-Diagrams, SQL Queries, and Normalization of a Database.
- Operating Systems
  - Designed and implemented System Calls for the Linux Operating System.
  - Designed and implemented programs for testing multi-threading capabilities.
  - Researched and discussed important Computer Science Operating System concepts such as Deadlocking, Virtualization, and Synchronization.
- Computer Architecture
  - Learned about Pipelining, Parallelism. and Data Hazards associated with lower level languages.
  - Built and traced a simple Datapath that works with basic operations such as Read and Write to Memory, Read and Write to Registers, Branching, and Jumping.
  - Learned the fundamental theory behind caching and address mapping between the CPU and larger sources of memory
  - Worked on Virtualization such as Virtual Addressing and Virtual Memory and it's underlying theories.
- Data Structures and Algorithms
  - Designed specific programs that utilized Data Structures such as Linked Lists, Stacks, Queues, and Trees

    - Calculated and solved problems by hand for Recursion, Searching, Trees and Graph theories.
    - Designed programs that utilized useful algorithms such as Merge Sort, Quick Sort, Red and Black Trees, and Dijkstra's Algorithm.
- Software Development
    - Designed, developed, and deployed a mobile application using important paradigms of the Software Development Life-cycle.
    - Used both a combination of the Agile and the Iterative Approach Methodology for track and assigning part of the projects to be released.
    - Used UML class model diagramming structure to map out the logic and usage of the mobile application.
    - Used GitHub as our primary source of Version Control and Project Management
- Compilers
    - Learned the fundamentals behind Compiler Systems the popular language like C/C++ and Java (to bytecode).
    - Designed a C- compiler using Yet Another Compiler Compiler (YACC), LEX, and C Programming Language
    - Worked on important concepts such as Regular Expression to Automata, Top-Down, Bottom-up, and Predictive parsing, Symbol Tables. and Nondeterministic Finite Automata through Transition Diagrams.
- Machine Language Programming
    - Wrote and tested software and hardware using the Arduino development environment.
    - Designed and developed many programs that utilized the Arduino Uno such as a Body Mass Index tracker and a Solar Tracking Panel
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- C/C++ and Programming Language Structures
    - Learned about the basics of logic control and structures using loops and recursion.
    - Worked with MAKE files to configure and run my C/C++ programs.
    - Designed simple Structures and Class objects to solve real world problems with C/C++.

PROGRAMMING LANGUAGES:

Languages:

- Java(4 years), C(3 years), C++, Python, Ruby, Atmel AVR, MIPS, NASM, Shell, Perl, x86 Assembly(Arduino/C), PHP, HTML5, CSS5, JavaScript, BootStrap, Fortran, Ada, Lex, and YACC.

ENVIRONMENTS:

Technologies, Frameworks, and Environments:

- Linux(4 years)(OpenSUSE, Mint, Ubuntu), Windows(4 years), VIM(2 years), Git, GitHub, GitLab, React, Android Studio, Microsoft Visual Studio, MySQL Workbench, PostgreSQL, NetBeans, NotePad++, Arduino, and Eclipse

PERSONAL PROJECTS:

Personal Small Business:

- Started a small personal business with some friends from school that focuses on mobile, web, and personalized applications.
- Designed and deployed the businesses' main website. (We have not deployed it yet, but the main code base for it is finished.)
- Worked in React using the free to use Material UI component structure.
- Use GitLab for all our Version Control.

Personal Website:

- Designed and built my own personal website using just HTML, CSS, and Bootstrap.
- Website can be found at: https://shanegrayson.github.io/.

WORK EXPERIENCE:

Physical Science Labs, Las Cruces, NM.
Student Intern (Summer 2016 – Winter 2016):

- Worked with the Metric Analysis team in finding inconsistencies and/or abnormalities in the data generated by simulations that were being ran daily.
- We accomplished this through analyzing and re-analyzing metrics drawn against the Database using PostgreSQL queries designed from mathematical functions.